

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (original): Method for engineering traffic between an ingress router and an egress router of a packet network, said traffic being scheduled within said ingress router in queues pertaining to different service classes, said method further including a step of determining a part of the traffic which will follow a dedicated tunnel between said ingress and said egress router

characterized in that

said method includes the provisioning of a tunnel queue dedicated to said part of the traffic intended to flow via said dedicated tunnel, for separately and temporarily storing said part of the traffic towards said dedicated tunnel

said method further includes a step of shaping said part of the traffic towards said dedicated tunnel before entering in said traffic tunnel.

2. (original): Method according to claim 1

characterised in that

said method includes the provisioning of a set of tunnel queues, associated to said dedicated traffic tunnel, each tunnel queue within said set pertaining to a different service class .

3. (original): Method according to claim 2

characterised in that

to each tunnel queue of said set a separate shaper is provided for shaping the traffic from said each tunnel queue of said set.

4. (currently amended): Method according to claim ~~2-or-3~~
characterised in that
said set of tunnel queues is associated to a plurality of dedicated traffic tunnels,
pertaining to the same egress interface of said ingress router.

5. (currently amended): Method according to claim ~~1,2-or-3~~
characterised in that
said method includes a step of monitoring the traffic via said dedicated tunnel, a step
of comparing the result of said monitoring with a reserved bandwidth for said dedicated
tunnel, and, depending upon the result of said comparison, a step of informing a network
administrator by sending a message to said network administrator.

6. (original): Method according to claim 4
characterised in that
said method includes a step of monitoring the traffic via said plurality of dedicated
tunnels at said egress interface, a step of comparing the result of said monitoring with a
reserved bandwidth for said plurality of dedicated tunnels, and, depending upon the result of
said comparison, a step of informing a network administrator by sending a message to said
network administrator.

7. (currently amended): Method according to claims ~~5-or-6~~
characterised in that

, upon receipt of a message indicating that the traffic through said dedicated tunnel , respectively said plurality of dedicated tunnels, exceeds a predetermined value, said network administrator increases the reserved bandwidth, whereas a new path or paths are calculated for said dedicated tunnel, respectively said plurality of dedicated tunnels, between said ingress router and said egress router.

8. (currently amended): Method according to Claim 1 ~~any of the previous claims~~ characterised in that

said provisioning of said tunnel queue or of said set of tunnel queues is dependent upon the sending, by said network administrator, of a message enabling said method.

9. (original): Ingress router (I) of a packet network, said ingress router being adapted to route packets within said packet network to an egress router of said packet network via at least one dedicated tunnel (LSP1, LSP2) to said egress router, said ingress router (I) including at least one plurality of queues (AF1,...,Afn, EF, BE, CT) pertaining to different service classes , said ingress router being adapted to temporarily store incoming packets within one of these queues, on the basis of their service class and on the basis of their destination

characterised in that

said ingress router(I) further includes at least one tunnel queue (QLSP1, QLSP2) dedicated and associated to said at least one dedicated tunnel (LSP1, LSP2) ,

said ingress router (I) is further adapted to temporarily store part of the incoming packets within said at least one tunnel queue (QLSP1, QLSP2) within said ingress router,

whereby said ingress router further includes at least one tunnel shaper (SLSP1, SLSP2) associated to said at least one dedicated tunnel (LSP1, LSP2), and adapted to shape the traffic of said at least one dedicated tunnel (LSP1, LSP2).

10. (original): Ingress router (I) according to claim 9
characterised in that
said ingress router further includes at least one set of tunnel queues, pertaining to
different service classes, and associated to said at least one dedicated tunnel.

11. (original): Ingress router (I) according to claim 10
characterised in that
said ingress router further includes at least one set of tunnel shapers associated to said
at least one dedicated tunnel .

12. (currently amended): Ingress router (I) according to claim 10 ~~or 11~~
characterised in that
said at least one set of tunnel queues pertaining to different service classes, is
associated to a plurality of dedicated tunnels pertaining to the same egress interface of said
ingress router.

13. (currently amended): Ingress router (I) according to claims 9, ~~10, 11 or 12~~
characterised in that
said ingress router (I) includes a monitoring device (M1) adapted to monitor the
traffic of said at least one dedicated tunnel or of said plurality of dedicated tunnels, to
compare said traffic with a predetermined threshold related to a reserved bandwidth for said
at least one dedicated tunnel or said plurality of dedicated tunnels, and to generate a message
to a network administrator depending on the result of said comparison.

14. (currently amended): Ingress router (I) according to ~~any of the previous claims 9 to 13~~

characterised in that

said ingress router is further adapted to receive a predetermined message from said network administrator related to the enabling of said at least one tunnel queue or said set of tunnel queues, and to determine therefrom whether or not to enable said at least one tunnel queue for receiving packets intended to said at least one dedicated tunnel.